



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Deepen Sinha and Carl-Erik Wilhelm Sundberg  
Case: 12-38  
Serial No.: To Be Assigned  
Filing Date: January 27, 1999  
Title: Joint Multiple Program Coding for Digital Audio Broadcasting and Other Applications  
Group: To Be Assigned  
Examiner: To Be Assigned

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INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Pursuant to 37 C.F.R. §§1.56, 1.97 and 1.98, Applicants' attorney wishes to bring to the attention of the Patent and Trademark Office the following documents listed on the accompanying PTO Form 1449. A copy of each listed document is enclosed.

U.S. Patent

U.S. Patent No. 5,463,641 issued on 10/31/95 to Dorward et al.

Other Documents

1. D. Sinha, J.D. Johnston, S. Dorward and S.R. Quackenbush, "The Perceptual Audio Coder," in Digital Audio, Section 42, pp. 42-1 to 42-18, CRC Press, 1998.
2. N.S. Jayant and E.Y. Chen, "Audio Compression: Technology and Applications," AT&T Technical Journal, pp. 23-34, Vol. 74, No. 2, March-April 1995.
3. J. Hagenauer, "Rate Compatible Punctured Convolutional Codes (RCPC Codes) and their Applications," IEEE Transactions on Communications, Vol. 36, No. 4, pp. 389-400, April 1988.

4. J. Hagenauer et al., "The Performance of Rate-Compatible Punctured Convolutional Codes for Digital Mobile Radio," IEEE Transactions on Communications, Vol. 38, No. 7, pp. 966-980, July 1990.

5. R.V. Cox et al., "Sub-band Speech Coding and Matched Convolutional Channel Coding for Mobile Radio Channels," IEEE Transactions on Acoustics, Speech and Signal Processing, Vol. 39, No. 8, pp. 1717-1731, August 1991.

6. A.R. Calderbank and N. Seshadri, "Multilevel Codes for Unequal Error Protection," IEEE Transactions on Information Theory, Vol. 39, No. 4, pp. 1234-1248, July 1993.

7. C.-E.W. Sundberg, "Digital Audio Broadcasting in the FM Band," Proceedings of the IEEE Symposium on Industrial Electronics, Portugal, July 7-11, 1997.

8. C.-E.W. Sundberg, "Digital Audio Broadcasting: An Overview of Some Recent Activities in the U.S.," Proceedings of Norsig-97, Norwegian Signal Processing Symposium, Tromso, Norway, May 23-24, 1997.

9. B.W. Kroeger and A.J. Vigil, "Improved IBOC DAB Technology for AM and FM Broadcasting," SBE Engineering Conference, pp. 1-10, 1996.

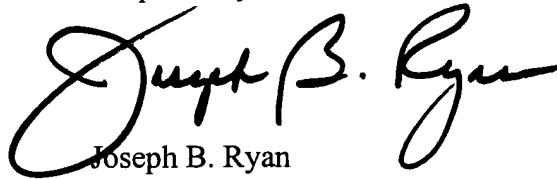
10. B.W. Kroeger and D. Cammarata, "Robust Modem and Coding Techniques for FM Hybrid IBOC DAB," IEEE Transactions on Broadcasting, Vol. 43, No.4, pp. 412-420, December 1997.

11. B.W. Kroeger and P.J. Peyla, "Compatibility of FM Hybrid In-Band On-Channel (IBOC) System for Digital Audio Broadcast," IEEE Transactions on Broadcasting, Vol. 43, No.4, pp. 421-430, December 1997.

Applicants' attorney also brings to the attention of the Office the following U.S. Patent Applications: Serial No. 09/022,114 filed February 11, 1998 and entitled "Unequal Error Protection for Perceptual Audio Coders," Serial No. 09/163,656 filed September 30, 1998 and entitled "Unequal Error Protection for Digital Broadcasting Using Channel Classification," and Serial No. 09/225,794 filed January 5, 1999 and entitled "Multiple Program Unequal Error Protection for Digital Audio Broadcasting and Other Applications."

The filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made, or as an admission that the information cited is considered to be material to patentability, or as a representation that no other material information exists.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Joseph B. Ryan". The signature is fluid and cursive, with a large initial "J" and a stylized "R".

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